

REMARKS

Claims 2 to 7 are pending in the above-identified application. Claim 2 is independent. Claim 1 has been canceled.

Claim Rejections – 35 U.S.C. §102

Claims 2-3 have been rejected under 35 U.S.C. §102(b) as being clearly anticipated by Garland et al. (U.S. Patent 6,204,448, hereinafter Garland). Applicants respectfully traverse this rejection.

Claim 2 is directed to a high-frequency multilayer circuit substrate. The multilayer circuit substrate includes a plurality of circuit layers (e.g., three), wherein an inner circuit layer includes a ground conductor. A circuit layer other than the inner circuit layer includes, among other things, a planar impedance matching circuit formed by an impedance matching microstrip line, one end of which is connected to the via hole through a via hole metal pad and other end of which is directly connected to a microstrip line being a signal transmission line.

Garland, on the other hand, discloses a co-planar transmission line structure where a lead (306) and a ground layer (302) are on the same layer (Fig. 3B, Fig. 3C). Thus, Garland fails to teach or suggest the structure of the claimed multilayer circuit substrate having an inner layer including a ground conductor and a layer other than the inner layer including a planar impedance matching circuit and a microstrip line being a signal transmission line.

Furthermore, Garland produces a characteristic impedance using a gap 309, cavities 310, and a portion 306a of the lead. The portion 306a of the lead is used to compensate for impedance mismatch due to provision of the lead under the cavity 310 (Garland at column 4, lines 10-14). Thus, Garland does not disclose impedance matching between the lead 306 and the other components forming the via hole connecting portion (e.g., via hole, via hole metal pad).

In the present invention, on the other hand, impedance matching is accomplished using an impedance matching microstrip line (e.g., through adjustment in width and length of the impedance matching microstrip line). Because impedance matching is accomplished using an impedance matching microstrip line, impedance is easily changed. In Garland, the portion 306a of the lead is not a microstrip line.

Thus, Applicant submits that Garland fails to teach or suggest at least the claimed high-frequency multilayer circuit substrate comprising, among other things, at least three circuit layers, an inner layer of which includes a ground conductor, and a microstrip line being a signal transmission line, formed in at least one of the circuit layers other than the inner circuit layer, connected to a planar impedance matching circuit. Further, Applicant submits that Garland fails to teach or suggest at least a planar impedance matching circuit that includes an impedance matching microstrip line, one end which is

connected to the via hole and the other end of which is directly connected to the microstrip line being the signal transmission line.

Thus, Applicants submit that Garland fails to teach or suggest each and every claimed element of claim 2. Such a deficiency applies to claim 3, as well. Accordingly, Applicants respectfully request that the rejection be withdrawn.

Claim Rejections – 35 U.S.C. §103

Claims 4 and 5 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Garland, in view of Roberts (U.S. Patent 4,418,429), Hayt, Jr., Engineering Electromagnetics, and Scharfman (U.S. Patent 3,660,784). Applicants respectfully traverse this rejection.

At least for the reasons above for claim 2, Applicants submit that Garland does not teach or suggest all claimed elements of claims 4 and 5, as well. In particular, Roberts, Hayt and Scharfman are relied on for general teachings of impedance matching. Because Garland does not at least teach or suggest the claimed structure for impedance matching, one of ordinary skill in the art would not have been motivated to incorporate the teachings of those other references into Garland in order to arrive at the present claimed invention. In other words, even if Garland, Roberts, Hayt and Scharfman were to be combined, they do not teach the claimed invention.

Thus, at least for this reason the rejections fail to establish *prima facie* obviousness of claims 4 and 5. Accordingly, Applicants respectfully request that the rejection be withdrawn.

Claims 6 and 7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Garland et al. in view of Scharfman. Applicants respectfully traverse this rejection.

At least for the same reason as above for claim 2, Applicants submit that all claimed elements are not taught or suggested for claims 6 and 7, as well. In particular, Scharfman is relied on for general teachings of impedance matching. Because Garland does not at least teach or suggest the claimed structure for impedance matching, one of ordinary skill in the art would not have been motivated to incorporate the teachings of Scharfman into Garland in order to arrive at the present claimed invention. In other words, even if Scharfman was to be combined with Garland, they do not teach the claimed invention.

Accordingly, Applicants submit that the rejection fails to establish *prima facie* obviousness for claims 6 and 7. Applicants respectfully request that the rejection be withdrawn.

CONCLUSION

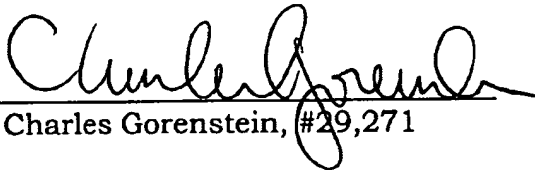
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert W. Downs (Reg. No. 48,222) at the telephone number of the undersigned below, to

conduct an interview in an effort to expedite prosecution in connection with the present application.

Pursuant to 37 C.F.R. §§1.17 and 1.136(a), Applicants respectfully petition for a one-month extension of time in which to file this reply. Attached is a check for the required fee of \$110.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,
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